

Title: Stand-up bag for flowable or pourable products.

Technical Field

The invention relates to a stand-up bag of a heat-sealable or weldable plastic film for containing in particular flowable or pourable products and comprising:

- 5 - two opposing side walls sealed together along lateral edges thereof by means of side seams;
- an inwardly folded bottom wall extending between the lower portions of the side walls and sealed to the respective side walls along transverse bottom seams and along bottom side seams; and
- 10 - an inwardly folded top wall extending between the upper portions of the side walls and connected to the respective side walls along transverse top connections and sealed to the respective side walls along top seams.

Background Art

Stand-up bags of this type are known inter alia from US-A-3,935,993 and  
15 DE-A1-2553854. Due their excellent standing properties and stability the bags have been used for a wide range of products, in particular for liquid, paste-like, powdery and granular products. It is however considered a drawback of the known stand-up bags that they are difficult to open why a pair of scissors or a knife is often needed or - as for instance known from WO 93/16928 and EP-A2-0.380.110 - they are  
20 provided with special discharging arrangements for easy removal of the product which makes the bag more expensive.

The above EP-A2 0380110 further discloses a stand-up bag of the type stated in the

preamble to claim 1 of the present invention and wherein the transverse top connections between the upper edge portions of the top wall and the upper edge portions of the respective side walls are non-peelable connections. The bag is provided with a closable discharge nozzle in the upper portion of one of the side walls for discharging the contents of the bag.

Finally WO 99/10246 discloses a bag having an inwardly folded top wall and comprising a reclosable fastening member between the upper edge portion of the top wall and an upper edge portion of the adjacent side wall. In the shown and described embodiment the reclosable fastening member is formed of a plastic zipper. In addition hereto on page 5, lines 13-14 the following examples of reclosable fastening members are mentioned: a plastic zipper with a slider, an adhesive fastener, VELCRO and snaps. However none of the mentioned or shown fasteners are capable of providing a gas-tight connection or closure and thus a gas-tight bag. The provision of such fasteners is furthermore both difficult and expensive.

### 15 Brief Description of the Invention

The object of the invention is to provide a stand-up bag of the above type which is easy to open toollessly and which is simple and inexpensive to manufacture.

The stand-up bag according to the invention is characterised in that at least one of the transverse connections between the top wall and the side walls is a heat-sealed peelable connection provided between an upper edge portion of the top wall and an upper edge portion of the adjacent side wall. The bag is thereby easily opened by gripping the top wall and the side wall connected by means of the peelable connection and pulling the two walls apart such that the peelable connection is broken.

According to the invention the upper edge portions of the top wall and the side wall

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may extend beyond the transverse peelable connection to form gripping members to be gripped when the peelable connection is to be broken. In addition to facilitating the opening of the bag, this embodiment of the invention is advantageous in that the portion of the top wall extending beyond the peelable connection may serve as a form  
5 of spout after the bag has been opened.

Furthermore according to the invention the peelable connection may comprise a film strip arranged between the upper edge portions of the top wall and the side walls, said film strip being firmly (non-peelably) heat-sealed to one of the edge portions, preferably to the edge portion of the top wall, the strip having a first surface of a  
10 sealing medium corresponding substantially to the sealing medium of the adjacent bag wall, and heat-sealed peelably to the second edge portion, preferably the edge portion of the side wall, the strip having a second surface of a sealing medium heat-sealed peelably to the sealing medium of the adjacent bag wall.

When the inner sealing medium of the bag walls is substantially made from  
15 polyethylene (PE), the first outer sealing medium layer of the film strip may be made